Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554

In the Matter of	)	
	)	
Connect America Fund	)	WC Docket No. 10-90
	)	
Universal Service Reform – Mobility Fund	)	WT Docket No. 10-208
	)	
Connect America Fund – Alaska Plan	)	WC Docket No. 16-271
	)	

JOINT REPLY COMMENTS OF QUINTILLION SUBSEA OPERATIONS, LLC AND QUINTILLION NETWORKS, LLC

Quintillion Subsea Operations, LLC and Quintillion Networks, LLC (collectively, "Quintillion") hereby reply to the comments of Alaska Communications Systems Group, Inc. ("Alaska Communications") on the Commission's Further Notice of Proposed rulemaking in the above-captioned proceeding.[1] The *FNPRM* and the comments of Alaska Communications[2] address the use of funds resulting from the prospective elimination of duplicative federal universal service funding where more than one competitive eligible telecommunications carrier ("CETC") is receiving high-cost support within locations in Alaska for the provision of 4G LTE wireless voice and broadband services. Quintillion generally agrees with Alaska Communications that the Commission should end duplicative support where it exists. Quintillion also concurs with Alaska Communications that the Commission should dedicate the monies that are freed up to support middle-mile construction to facilitate the introduction by

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1 *Connect America Fund; Universal Service Reform – Mobility Fund; Connect America Fund – Alaska Plan*, WC Docket Nos. 10-90 et al., Report and Order and Further Notice of Proposed Rulemaking, FCC 16-115 (rel. Aug. 31, 2016) (respectively, the "Report and Order" and "FNPRM").

2 Comments of Alaska Communications, filed in WC Docket Nos. 10-90 et al., dated December 6, 2016 ("Alaska Communications Comments").

retail providers of broadband and other services to unserved and underserved rural and remote Alaska, but offers slightly different views than Alaska Communications how the Commission should do so.

I. INTRODUCTION

Quintillion Subsea Operations, LLC, ("Quintillion Subsea") and Quintillion Networks, LLC, ("Quintillion Networks") are both headquartered in Anchorage, Alaska. Each Quintillion company will wholesale middle-mile and backhaul communications capacity within Alaska, beginning in 2017. Quintillion Subsea has an application for a submarine cable landing license pending before the Commission[3] and, pursuant to special temporary authority, is currently constructing a submarine cable system (the "Quintillion System") that will connect multiple points within Alaska.[4] Construction is targeted for completion in the second half of 2017.

The Quintillion System, which will span over 1100 miles and deploy advanced coherent multi-terabit technology with optical add-drop multiplexing capabilities, will be deployed as a trunk and branch configuration with six landings in rural coastal communities in Alaska: Nome, Kotzebue, Point Hope, Wainwright, Barrow, and Prudhoe Bay. The six landings in Alaska will be backhauled to Prudhoe Bay where the Quintillion System will interface with the state-of-the-art broadband terrestrial fiber system of Quintillion Networks, extending south from Prudhoe Bay and connecting eventually to existing third-party fiber-based networks that provide access to

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3 *See In re:* Quintillion Subsea Operations, LLC, Application for a License to Construct, Land and Operate a Private Fiber Optic Cable System Linking Points Within Alaska, and Request for Streamlined Treatment, Quintillion Subsea Cable System, File No. SCL-LIC-20160325-00009 (filed Mar. 25, 2016).

4 *See In re:* Quintillion Subsea Operations, LLC, Application for a License to Construct, Land and Operate a Private Fiber Optic Cable System Linking Points Within Alaska, and Request for Streamlined Treatment, Quintillion Subsea Cable System, and Application to Extend Special Temporary Authority, File Nos. SCL-STA-201 60907-00017SCL-LIC-20160325-00009 (granted Sep. 20, 2016)

the Internet and global networks via points of presence in Anchorage, Hillsboro, and Seattle. The Quintillion System is designed to provide a resilient network by use of features including extra repeaters, parallel, redundant equipment, enhanced emergency power, horizontal directional drilling to install conduit in shallows near shore to protect cable and buried spur and backbone cables where required to avoid identified external risks such as fishing or ice gouging. The Quintillion System is part of a multi-phase international telecommunications project that will eventually link Alaska to Canada, Europe, and Asia with a fiber-optic broadband cable running along the Arctic Ocean through the Lower Northwest Passage.

The Quintillion System and the interconnecting terrestrial fiber network of Quintillion Networks will enable competitive retail providers to bring affordable high-speed broadband access and other advanced communications services for the first time to communities in Northwestern and Northern Alaska. Quintillion intends to operate as a private operator and will sell capacity on its cable and terrestrial systems on a wholesale basis to telecommunications companies. As a wholesale operator, Quintillion expects to provide affordable fiber-based middle mile capacity at a fraction of the cost and at higher speeds than existing satellite and microwave backhaul solutions in Alaska, where they are even available.

The introduction of Quintillion's service later this year will promote the competitive introduction of broadband in rural and remote Northwestern and Northern Alaska at speeds enjoyed by users in the most urban locations in the lower forty-eight states. The availability of high-speed Internet access will greatly improve the quality of service and opportunities in the affected communities Alaska, including support for a Digital Learning agenda for improved education and job training, improved tele-medicine solutions such as remote diagnostics and specialist consultation, enhanced efficient delivery of critical government services; high-speed

communications supporting business opportunities dependent on true online/remote access, real-time monitoring and management of resource development industries, and, support for essential national security and safety priorities.

The Quintillion System and the supporting terrestrial fiber network were each developed and are being deployed without universal service funds. However, Quintillion recognizes the important role that universal service support can play in bringing affordable broadband services to rural communities in Alaska. Quintillion applauds the Commission for undertaking the design, adoption, and implementation of an Alaskan universal service plan which takes into account the unique challenges and opportunities embraced by providers seeking to bring broadband and other services on reasonable terms and conditions to communities that have been unserved or underserved because of the high costs in doing so and real physical construction hurdles.

Quintillion is pleased to be filing these reply comments to the comments filed on the *FNPRM* by Alaska Communications. Because there is so much work to do to ensure Alaskan communities receive the benefits of the advanced communications so much of the remainder of the nation already enjoys, it is critical that the Commission take steps to ensure that universal service funds are used efficiently to support the construction of adequate middle-mile facilities where they do not currently exist (or are not planned) and that any duplicative universal service support be eliminated as soon as possible, freeing up fund better directed to middle mile projects.

II. QUINTILLION GENERALLY SUPPORTS ALASKA COMMUNICATIONS' COMMENTS

In the *Report and Order*, the Commission concluded that CETCs which serve "remote" areas of Alaska will be permitted to retain support at 2014 levels provided that certain

performance commitments – not yet established by the Commission – are satisfied.[5] At the same time, the Commission concluded that it will terminate duplicative support in those remote areas where multiple CETCs operate and are subsidized.[6] In the *FNPRM*, the Commission sought comment on how to identify and terminate duplicative support and how to redistribute liberated amounts of support where duplicative support occurs.[7]

In its comments, Alaska Communications advocates that any amounts freed up by discontinuing duplicative CETC support should be redirected to support the deployment of middle-mile facilities reaching unserved and underserved rural and remote parts of Alaska.[8] Quintillion supports this basic proposal. As Alaska Communications notes, the continued absence of middle-mile infrastructure Alaska has hampered retail providers' ability to introduce broadband more widely to communities throughout large portions of rural and remote Alaska who so desperately need it to access advanced services.

All components of these communities are deprived of the benefits of affordable, high-speed, reliable broadband and other advanced services without adequate middle-mile capacity, from government and anchor institutions to residents and businesses generally. In the *Report and Order*, the Commission required CETCs accepting support under the Alaska Plan to identify middle-mile facilities employed within their networks and report specifically on those middle-mile facilities they deploy and use to support service in eligible areas. Quintillion expects that

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5 *Report and Order*, ¶ 72.

6 *Id.* ¶ 93. The Report and order reflects the Commission's intent to make this determination after five years and eliminate duplicative funding beginning in year six.

7 *FNPRM*, ¶¶ 109-111.

8 Alaska Communications Comments at 6-9.

this reporting will only underscore the widespread absence of adequate middle-mile facilities in remote and rural Alaska.

Quintillion supports Alaska Communications' recommendation that, when redistributing duplicative funds that are identified and eliminated, the Commission should target routes that lack any terrestrial middle-mile infrastructure. But before funds are redistributed to a particular area, the Commission should take steps to ensure that the support will be sufficient to allow the middle-mile project to be completed. Middle mile support should only be directed toward builds and recipients where the subsidies are adequate to enable provision of affordable high-speed, reliable broadband services. Incomplete middle-mile facility construction to an area of remote Alaska would, for all practical purposes, be no different than the lack of any middle-mile facilities and the unwise distribution of funds may deprive another area the ability to benefit from middle-mile infrastructure. The Commission should work with state authorities and carriers to identify those areas where redirected funds could make the most significant impact in the most cost-effective manner.

Quintillion does not necessarily oppose, in principle, redirecting the funding made available by eliminating duplicative CETC support to routes that lack two competing providers of high-speed terrestrial service, as Alaska Communications suggests.[9] However, as a practical matter, there are more than enough unserved areas that, in the near or intermediate term, funds would not likely be available for such underserved areas. Accordingly, the Commission should defer consideration of making freed-up funds available for middle mile until the primary goal of bringing *initial* broadband service to all rural and remote communities is tackled. Indeed,

[9] *Id.* at 9-10.

adequate middle-mile facilities to communities without a current provider are likely to encourage the provision of competitive services more efficiently.

Alaska Communications proposes that a single wholesaler entity be selected to plan, construct and operate a subsidized middle-mile network for the benefit of all service providers and end users in the state.[10] Quintillion submits that, rather than a single state-wide provider, it would be more effective to facilitate the possibility that multiple middle-mile wholesalers, selected in different areas depending on the geography and features of the existing network of each wholesaler, may have access to redirected Alaska Plan funds to deploy middle-mile facilities. Having a mechanism where, rather than choosing a single state-wide recipient entity, as Alaska Communications advocates, wholesalers could compete to receive the freed-up funds that are targeted for a given unserved remote or rural area. This would best ensure the goals Alaska Communications has identified that "support is used where it is most needed, without duplication of facilities or routes, and maximizing the return on the public investment."[11] Selecting a single wholesale provider to receive all such redirected funds is likely to introduce inefficiencies in some areas where that state-wide recipient is not in the best position to leverage existing network facilities to complete middle-mile construction to a given community or group of communities.

Quintillion also disagrees with the suggestion of Alaska Communications that the Commission should consider, as an alternative to awarding the redirected funds to a middle-mile wholesaler, awarding recovered duplicative support to the wireless affiliates of rural ILECs serving the area associated with the support.[12] The condition that the ILEC undertake

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10 *Id.* at 10.

11 *See id.* at 11.

12 *See id*. at 10-11.

obligations to build out broadband middle-mile facilities on routes not already targeted for build-out under the Alaska Plan does not make this alternative more acceptable. Quintillion submits that there is no reason to assume that redirecting the support to these providers rather than independent wholesale providers would, as a general matter, maximize the return on public investment. Nor would directing the freed up funds to such affiliated retail providers as surely promote *competitive* provision of services to the beneficiary communities. At bottom, Quintillion submits that each market area or community lacking adequate middle mile facilities may require a tailored solution to best use the freed up support to promote the construction of middle mile facilities -- the wireless affiliate may not be the most effective choice in many such situations.

The award of funding to any CETC or wholesale entity under the Alaska Plan must be subject to clear conditions. As Alaska Communications advocates, there must be regular oversight and effective enforcement.[13] Minimum conditions should include regular reporting on what facilities have been constructed and prompt reporting when they are complete, the types of services made available through the use of the redirected funds which would otherwise not have been offered (including capacity, speed, latency, and price), and the terms and conditions under which the middle-mile service is being offered. Quintillion recognizes that any subsidized backhaul services must be made available on a wholesale basis on a nondiscriminatory basis on reasonable terms.[14]

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13 *See id.* at 11.

14 Quintillion submits that a middle-mile wholesale provider decision to apply for and accept redirected Alaska Plan funds to provide subsidized service where it is most needed should not affect its regulatory status when providing unsubsidized service. In other words, a private carrier should be able to seek the redirected funds to provide middle-mile service to certain communities without having to forfeit that status when and where it offers service in other communities without the benefit of redirected duplicative funds, if it so chooses.

It is crucial to promote the eradication of this middle-mile gap in order to bring broadband and other advanced services to those areas which do not yet receive them at modern speeds. Quintillion agrees with Alaska Communications that the elimination of duplicative CETC can be turned to work toward this objective. But it is equally important that all service providers receiving support under the Alaska Plan exploit adequate and affordable middle-mile service as soon as it is available, whether from a carrier receiving redirected Alaska Plan funds or an unsubsidized provider. When adequate middle mile service becomes available, whether in year one, five, or ten, subsidized carriers serving end users should be required to offer 10/1 Mbps service promptly.[15]

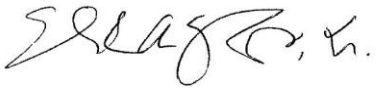
[15] *See, e.g.*, Letter from Julie A. Veach, Counsel to GCI, to Marlene H. Dortch, Secretary, FCC WC Docket No. 10-90 (filed June 22, 2016) (explaining that GCI commits to deliver 10/1 Mbps speeds under the Alaska Plan only in areas already served by fiber backhaul).

III. CONCLUSION

For the foregoing reasons, the Commission should adopt Alaska Communications' proposal to use eliminated duplicative funds to support adequate middle-mile infrastructure in rural and remote Alaska. The Commission should also adopt measures to ensure that 10/1 Mbps service is provided by CETCs as soon as adequate middle-mile facilities are available to support that service form whatever source.

Respectfully submitted,

QUINTILLION SUBSEA OPERATIONS, LLC
QUINTILLION NETWORKS, LLC



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